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FRANK PARSONS NORBURY, M. D. AND THOS. A. HOPKINS, M. D.

Secretary: CHARLES WOOD FASSETT, M. D.

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## Editorial Department.

**Two University Ideals.**

PRESIDENT HADLEY, of Yale, in his address delivered at Lawrence, Kas., upon the occasion of the inauguration of the new chancellor of the University of Kansas, Dr. Frank Strong, spoke of two university ideals. One, the ideal of the university as the coping-stone of the system of secondary education; the other, the ideal of the university as a place for laying the foundation for professional study and work. The first he styled the English ideal; the second, the German ideal. He said, our solution of the university problem was the combination of the English spirit with the German organization; "so that we can teach professional studies without teaching professionalism.

The great thing "is to lead the student to value some other ideals besides the commercial one—to recognize that there is some measure of success in life higher than the mere power of money-making." Not that "money-making is a bad thing, or that commercial success is an unworthy ambition; but that constituted as society now is, our young men are far too apt to over-value these ideals as compared with the ideals of civic duty, of religious earnestness and unselfish devotion to causes which promise them no advancement. If our educators can manage to combine the frame-work of the German university with the spirit of the English university, or of the old-fashioned American college, they will economize the time of the student without sacrificing the educational result to be achieved. They will give to the community, for whose benefit they exist, the trained experts on which the community insists; and they will at the same time provide for the maintenance of that healthful public spirit in the individual and public sentiment in the body politic on which it may sometimes perhaps not so strongly insist, but which it needs all the more for its permanent continuance and prosperity."

Every physician should say amen to these words of wisdom and cooperate in every way towards making the university spirit the spirit of the

age. Encourage every young man who seeks advise regarding medical education to first grasp the true spirit—the ideal spirit of success, and then let the university ideals of President Hadley be presented to him, that he may then realize the full value of his opportunities in medicine should he choose it as a profession.

In this day of competition and hurry the young man who chooses medicine as his life's work is too apt to want the short cuts to entrance into the profession. He loses sight of the ideal in the actual hurry. Too frequently he has entered medicine simply because there is a good living in it—he has no greater ideal—consequently when in practice he never rises, perhaps, even as high as wishing to have the reputation of wanting a good bank account—the spirit of service has "never touched him," and professional success is not measured to him, he is a stranger to it; he has no use for the intellectual—to him medical societies are a bore where selfish men exploit their experinces to advertise themselves. His ideals are so dwarfed that he regards "the pull' as the means "great men" use to promote their ascension in the world. He lives and dies a selfish, sordid, disgruntled man. How transformed would have been such a life if early he had encountered the university ideal grown up with it around him, and before him saw all of the rich possibilities of an intellectual life broadened by the spirit of service and hallowed by memories of professional earnestness. F. P. N.

**From Another View.**

We have just quoted from the address of President Hadley on the university ideals, and now we turn to the inaugural address of President Wilson of Princeton, wherein we and more of the same order of thought, reiterating the university ideal as paramount to professional success. Prof. Wilson says: "Though the university may dispense with professional schools, professional schools may not dispense with the university. Professional schools have nowhere their right atmosphere and association, except where they are parts of a university and share its spirit and method. They must love learning as well as professional success in order to have their perfect usefulness. * * * Whatever our calling, our thoughts must often be afield among men of many kinds, amidst interests as various as the phases of modern life. The managing minds of the world, even the efficient working minds of the world, must be equipped for a mastery whose chief characteristic is adaptability, play and initiative which transcends the bounds of mere technical training. Technical schools whose training is not built upon the foundations of a broad and general discipline cannot impart this. The stuff they work upon must be prepared for them by processes which produce fiber and elasticity, and their own methods must be shot through with the impulse of the university."

From the view point of these two great educators—men who create ideals, foster and promote the university spirit, we see that the future success of American medicine must be founded upon the broad training

which is to be had in a university training. American medicine has reached a place in the world's educational progess which bids fair to rival that of the older nations of the earth, and this because the men who are at the helm, the men who are shaping the course of progress, are university-trained men.

Let every physician receive enthusiasm from this source and determine to do his part toward encouraging students to recognize the university ideal as the true ideal in medicine.

The ideal which will give professional success, and thereby perfect usefulness, which after all is the ideal of the profession of medicine.

F. P. N.

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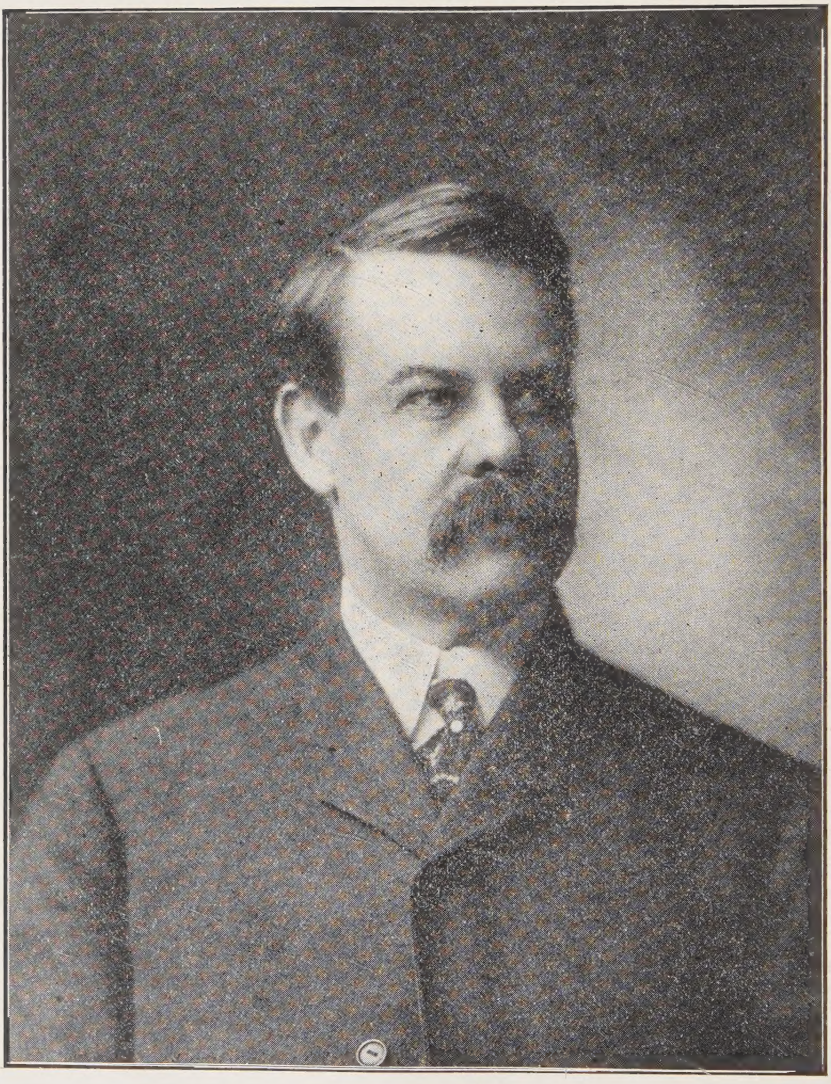
**The Use of Antitoxin.**

In a discussion on the use of antitoxin before the American Pediatric Society at its Boston meeting (Archives Pediatrics, October, 1902), Dr. Charles D. Kerley, of New York, in a very able and practical paper, discussed "Diphtheria, With and Without Antitoxin in 150 Cases." In speaking of the indications for and use of antitoxin Dr. Kerley said "In suspicious cases I do not wait for the culture. By suspicious cases I mean visible membrane. I inject and then take a culture. I have injected a few cases which did not develop diphtheria later. To the best of my knowledge the recovery cases are all living at the present time, and have never shown any untoward results from the use of the antitoxin. In addition to bringing the antitoxin into use at the earliest possible moment it is necessary to be able to know when more is required; this is a point not generally appreciated. According to my observation the beneficial effects are not evident until ten or twelve hours have elapsed. If after twelve hours no improvement at all is evident, I reinject. After improvement is noticed by a fall in the temperature, and by the membrane taking on a ragged granular appearance, I wait twelve hours more to observe the further changes. If at this time the character of the membrane remains unchanged, or shows fresh deposit with perhaps a rise in temperature and increased prostration, the antitoxin is repeated.

"A chart was presented which demonstrates well the effect of antitoxin upon the disease as indicated by the temperature. Improvement was noticed after each injection, but was not sufficient to control the disease until 9000 units had been given, this being the amount of the antidote which the little child required to combat the poison in her system.

"The death rate in diphtheria may be reduced to a very small percentage by the early use of full doses of antitoxin, not less than 3000 units, which should be given during the first twenty-four hours if possible. This amount is to be repeated without hesitancy if improvement is not promptly observed. When in doubt intubate; so when in doubt, inject. This I practice and teach. About 20 per cent of the cases develop urticaria, which is annoying for a few days. I have noticed no other unpleasant results from the use of the serum.

"I would establish the following principles:



EDWIN WALKER, M. D,

EVANSVILLE, IND.

President-elect Mississippi Valley Medical Association.

"With visible membrane inject at once, and take a culture.

"In croup, inject if there is inspiratory and expiratory obstruction.

"The patients should be seen at twelve hour intervals.

"Reinject in twelve hours if the patient is not improved, or if improvement is not marked.

"If continued improvement does not follow reinject at twelve hour intervals until the membrane disappears.

"Dosage, 2000 units for a child under one year of age, the amount to be repeated if necessary.

"Three thousand units for a child over one year of age, the amount to be repeated if necessary."

# Monographs on Nervous Diseases

**With Especial Reference to Hygiene, Nursing and Therapeutics.**

## Myxedema.

BY F. SAVARY PEARCE, M. D.,

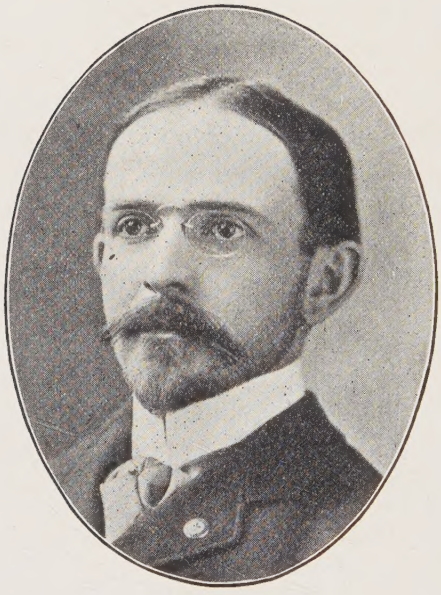
PHILADELPHIA,

Professor of Nervous and Mental Diseases in the Medico-Chirurgical College of Philadelphia; Neurologist to the Philadelphia Hospital.

IS a disease characterized by myxematous degeneration of the subcutaneous tissues occurring in adult life. The affection is due to disease of the thyroid gland in which there is defect of internal secretion of this organ. When the disease occurs in early life, the name sporadic cretinism is applied; and when it occurs as the result of extirpation of the thyroid gland, it is designated cachexia strumipriva. Myxedema occurs more frequently about the thirtieth up to the fortieth year of age.

Symptoms are of mental obtundity with the physical signs of enlargement of the body through increase and deposit of myxematous degenerative material in the subcutaneous tissues. The patient seems fleshy, but the skin is harsh, dry and sallow looking rather than normal in color. There is no true edema. The expression becomes blank, the patient complains of great feebleness, the lips and lobules of the ear and eyelids thicken. The intestinal tract is torpid, the secretion of the kidneys is but little. This condition exists for some years without much change from month to month. The face is round in contra-distinction to the face in Paget's disease or in acromegly.

Prognosis of myxedema is good; wonderful results being gotten by means of the use of the thyroid gland internally, this making up for the deficiency in the diseased body. The extract of the gland may be given in grain doses, three times a day, gradually increased until palpitation of the heart may be produced.



WM. BRITT BURNS, M. D.

MEMPHIS, TENN.

Second Vice-President Mississippi Valley Medical Association.

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## The Pathological Status of Retroverted Uteri.


By W. A. Tichenor, M. D.,

CHICAGO.



**Read at the Chicago meeting of the Tri-State Medical Society, April 4, 1902.**


I DO not bring this paper before this society of advanced medical men, expecting to present anything new or startling upon the subject of retroverted uteri. There is probably, however, no condition of female organs that has given rise to more discussion and writings, and more methods suggested, surgical and mechanical, for its correction, than the backward displacement of the uterus. It has occupied the attention of many able gynecologists in this and other countries, which has resulted in many learned and comprehensive papers. The number and variety of surgical procedures, suggested performed, and enthusiastically endorsed for the correction of this trouble, probably exceeds in number that of any operation for the relief of any one trouble, to say nothing of the medical and mechanical measures suggested. Now after a quarter of a century or more spent in trying to devise ways and means to relieve this very frequent trouble, now comes a certain number of surgeons and gynecologists, more particularly our German friends across the water, and tell us that, this condition we have been trying so hard and long to find a satisfactory means of relief for, is not a pathological one at all; and that a woman is just as comfortable with her uterus in a retroverted position, as in an anteverted one; that it has not been so long ago, that we were taught that anteversion was a pathological condition. Now this brings me to the phase of the subject, that is the exciting cause of this brief paper, viz., Is retroverted uteri a pathological condition? Or an abnormal one? here using the word pathological in a broad sense. If I can succeed in stimulating a free expression of the views of the members of the Tri-State

Medical Society of three great States of the Union, as to whether retroversion is, or is not, a pathological condition, and if pathological, how to correct the malposition will feel that my effort has not been in vain.

There has been a number of papers written in the recent past, taking the position that retroposed uteri, was not a pathological condition, per se.

Possibly the most noted is a paper written by Carl Schroder, which is quite comprehensive, and gives at some length, statistics in support of his view. He examined 411 women at Konigsburg. Eighty-two were patients in the gynecological policlinic; 184 in the obstetrical policlinic, and 145 in the medical clinic. Of this 411, 118, or a little less than 29 per cent, had retroposed uteri.

From this number of cases he compiles tables, and draws these conclusions, that retroposed uteri uncomplicated by disease of the tubes or ovaries does not materially influence the health of the patient, and does not in itself demand treatment.

A close study of these tables does not fully warrant this conclusion.

While it is true that backward displacement, may be present for a period of time without causing pain or inconvenience, yet is any one prepared to say that in this position, a uterus can perform its function and be no more liable to trouble than when in the normal, or anteverted position? While the opinions of men of this character and others at home, should not be hastily turned down; yet, on the other hand, should they be accepted without careful consideration? While it is unquestionably true that many women are going about with backward displaced uteri, without discomfort, and have done so for quite a period of time, yet, without enumerating the symptoms usually attributed to backward displacement, such as pain in the back, dragging sensation, painful menstruation, etc., I think there are certain grave pathological conditions found in the uterus and adnexa, in which the first step is the backward displacement.

First.—Among the more grave is prolapsus. It will not be denied that practically all cases of prolapsed uteri, were first displaced backward, for it is practically impossible for a uterus to slide down the vaginal canal if the cervix is well back toward the sacrum, and the fundus well up against the pubes; in this position, it is readily seen the organ lies across the axis of the vaginal outlet, and will not prolapse; but when the fundus is in the hollow of the sacrum, then the organ is in the most favorable position for gravitating toward the vaginal outlet; the organ being pear-shaped, favors the descent.

Second.—The retroverted position militates against the expulsion of menstrual and other secretions.

Third.—This position retards venus circulation, thereby favoring the growth of any pathogenic bacteria that may find lodgment.

Fourth.—It lessens the woman's ability to bear children, by decreasing the chances of conception, and increasing the chances of abortion, about one-third of all gravid uteri abort.

Fifth.—The retro-displaced uterus is a prominent etiological factor in prolapsed ovaries.

Sixth.—Retroverted uteri and prolapsed ovaries are in the most favorable position to be irritated and injured by the passage of hard feces, and during the act of coitus.

For these and other reasons, I must hold, till they are shown fallacious; that a retroposed uterus is a pathological condition, and continuing in this position invites uterine troubles.

A loop of bowel through the internal abdominal ring and inguinal canal finds its way to the scrotum, and patient will perform his duties without inconvenience; and were it so situated that he could not see and handle it, many cases would be no more aware of having a hernia, than many women are of having a retroverted uterus; yet who would even intimate that a hernia at any point between the internal ring and scrotum is not a pathological condition, and a prolapsed uterus might very properly be called a hernia. We replace the gut, and do an operation for radical cure for fear of what may happen, when the hernia per se, is giving little or no trouble. Of course the unfavorable results that may follow a retroposed uterus are not so highly dangerous to life as those following hernia, yet the principle in the two conditions are identical.

In addition to the above enumerated conditions, we know that there is a percentage of cases with retroposed uteri which have painful symptoms that are due to the position of the uterus, shown by the fact that a correction of the malposition relieves the symptoms. Hence in the light of our present knowledge, I am still of the opinion that a retroposed uterus is a malposition, and requires the attention of the gynecologists.

If this position is correct, what shall we do for an uncomplicated case of retrodisplaced uterus, with or without symptoms?

I am free to confess that I do not attribute that importance to an uncomplicated case of retroversion without pelvic symptoms, especially in a young unmarried woman that has generally been given to it in the past few years. Hence in answer to the above question, if the subject is a young unmarried woman and without symptoms, I would advise against local treatment, looking of course after the general health and suggesting the assumption of the knee chest position night and morning. But if the case presented decided symptoms that were distressing, and referrable to the pelvis, I would advise mechanical and medicinal measures. Regulate the bowels, see that proper clothing are properly worn, nutritious diet and open air exercise.

As to direct measures to relieve malposition, would first relieve congestion and tenderness if present by boroglyceride tampons and hot vaginal douches. After congestion and tenderness is relieved, would endeavor to replace the uterus by careful bimanual manipulation, and I would like to say here that to attempt to replace uterus, by a sound or other intra-uterine instrument is reprehensible it may possibly require several seances before the organ is completely restored to its normal position, when this is accomplished, then endeavor to retain the uterus in antiversion, by a well-fitting pessary. And I would like to pause a moment here to say a word concerning the pessary. The use of the pessary is condemned frequently, from an erroneous conception of when and how to use it. But little knowledge of its use can be obtained from text-books or general literature.

I have had come under observation a number of women, wearing a pessary with the uterus retroverted; inquiry would reveal that the physician had inserted the pessary to correct the displacement, the idea being that by leverage the pessary would in some way pry the uterus into position. The only possible way in which a pessary can keep a uterus anti-verted is by its action upon the sacro-uterine ligaments. Of a necessity in all cases of retroverted uteri, the sacro-uterine ligaments are elongated, stretched out, hence we aim to shorten them by making an acute flexion in them with the posterior curve of the pessary. In other words, drawing the cervix toward the sacrum by pushing up the sacro-uterine ligaments with the posterior curve of the pessary, the anterior curve resting on the perineum, and if this is much lacerated or relaxed, it should be repaired before use of pessary.

Therefore, before attempting to use a pessary to retain uterus in anti-version, the uterus must be freely movable, put in normal position, and not sensitive to touch, and ovaries not where pessary will press upon them. With due consideration of these points, and not failing to select a pessary of proper shape and size for each case, the use of the pessary will prove very satisfactory.

But in a certain number of these cases (of uncomplicated cases of retroposed uteri with symptoms referrable to pelvis) we are unable to correct the malposition or relieve the pain by medical and mechanical means. Now the question of surgical interference arises, if this is decided upon, what surgical method shall be adopted? In my humble judgment these are the cases in which an Alexander should be done, and the only class. The Alexander to my mind has some serious objections, the gravest is that, on opening the inguinal canal, and drawing upon the round ligaments, we do not bring the uterus in good anti-verted position, but suspend it as it were on a higher plane in the pelvic cavity; while it is true, it brings it to a point where the intra-abdominal pressure will strike it posteriorly, and will in time bring it to full anti-version, but this puts the round ligaments on the stretch, and to this stretching is due the drawing sensation that patients often complain of for a period of time after an Alexander. Again, it makes, as usually done, two scars in abdominal wall, which is quite an eye-sore to a comely, unmarried woman, and we are compelled to use the weaker portion of the ligament, fastened in the inguinal canal, and a goodly per cent of the uteri will again become retroposed. For these and other reasons, I am convinced that the Alexander operation has a very narrow field of usefulness in gynecological surgery

This brings us to the consideration of that class of cases of retroposed uteri accompanied with other pelvic troubles.

It has been the practice of a goodly number of gynecologists who are fond of the Alexander operation, to consider the case suitable for this procedure when the uterus is freely movable and no pathology is discoverable and the organ can be replaced. This can be done when there is very decided pathology within the pelvic cavity, pathology that cannot be discovered by palpation. But a few weeks since I saw in Dr. Webster's clinic in this city, the abdominal cavity opened by him, in which the symptoms

of pain in the case was out of proportion to the pathology that could be found on physical examination. A movable retroverted uterus was all that could be made out; but section of the abdominal wall revealed a long slender band reaching from the fundus to the rectum, it would stretch and pull up the rectum sufficient to let the uterus come well forward. The ovaries were studded with small retention cysts. The band was severed, the ovaries resected, and the uterus retained in normal position by his method. Now this case so far as could be determined, before inspecting the parts, was a typical one for an Alexander and which operation instead of relieving the trouble would probably have added to it, and I am constrained to think that simliar conditions are present more frequently when an Alexander is done than we think for; and our patient is no better after operation than before. Only last August, while in Buffalo, a beautiful, bright, unmarried woman was the guest of my family, and during the time her menses came on, and hemorrhage was so severe and persistent, that after consultation with no less authorities than Mathew D. Mann and Roswell Park, a curettement and Alexander was done. The hemorrhage was controlled; but otherwise the patient was not so comfortable as before the Alexander, and has not been able to walk two blocks since the operation, and writes me that she thinks of submitting to further surgical measures in the hope of relief.

When it has been determined in a given case of retro-displacement to resort to surgical measures for relief all evidence, both physical and symptomatic, of pathology in the pelvic cavity, should be absolutely absent, before the Alexander operation is decided upon. If this is done it will be found that only a small percentage of retro-deviated uteri are suitable to be dealt with by the Alexander operation. Therefore, as by far the larger per cent of retroposed uteri are complicated with other pathological conditions; to deal with these it is necessary to open the peritoneal cavity either through the vagina, or the abdominal wall. It is not within the province of this paper to discuss the merits of the two routes; suffice it to say that it will be readily conceded that by far the larger proportion of cases of retroverted uteri with diseased ovaries, tubes, adhesions, etc., can best be dealt with through an abdominal incision. After having entered the peritoneal cavity through the belly wall, and dealt with the pathology found, it is then necessary to adopt some measure that will properly retain the uterus in normal position.

A number of methods have been devised and reported in the current medical literature, the most of them have merit, and the profession is generally familiar with them; and to enumerate and discuss them here would take too much time, and doubtless not interesting. There is no one operation yet devised that seems to meet fully all the conditions that may arise.

There are two operations that have been published within the past two years or little longer, that I would like briefly to call attention to. I refer to the operation devised by Dr. Alex. Hugh Ferguson and Dr. J. Clarence Webster, both of this city. In both, the proximal end, and in consequence the stronger portion of the round ligament, the natural tis-

sue to suspend the organ with, is used. They are both comparatively easy of performance; and to my mind come nearer meeting all the requirements when other pathology is present in cases of retroverted uteri than any operation yet devised. The Ferguson operation, as now done by him, consists in a median incision, and after dealing with pathology found, the tissues above the rectus muscle is retracted outwards; a puncture is made through the remaining tissues of the belly wall, a forcep thrust through the opening, made to grasp the round ligament, and withdrawn, bringing the ligament with it which is sewn with catgut to the fascia and muscles; for an accurate description of the operation will refer you to his publication.

Dr. G. Tod Gilliam, of Columbus, Ohio, has made some modifications of the operation, which have value, and which were published in the Journal of the American Medical Association of June 15th, 1901. This operation brings the uterus into its normal position, by means of the stronger portion of the natural suspensory tissues of the organ, and securely holds it there; will not interfere with subsequent pregnancy, and is the operation par excellence in cases where there is a tendency to prolapse. It does not admit of much mobility in distention of the bladder and rectum. But so far as I can learn, there has been no complaint on this account, though this criticism has been made.

Dr. Webster also uses the intra-abdominal portion of the round ligament in his method of retaining the uterus in normal position. He thrusts a forcep through the broad ligament from behind, which is made to grasp the round ligament, and brings it through the opening thus made to the posterior surface of the fundus of the uterus, which has been previously anti-verted and sews it there folded upon itself. Dealing likewise with the ligament of the opposite side. This procedure has the advantage of leaving the uterus sufficiently movable, and can be done through the vagina. But is probably not so acceptable as the Ferguson operation when there is a degree of prolapsus. To my mind one or the other of these operations seem to meet all the requirements of a retroposed uterus when the peritoneal cavity is opened for other cause.

In cases where tubes and ovaries have been removed and time is an element, I see no objection to ventro-suspension as devised by Howard Kelly.

DISCUSSION.

Dr. Alex. H. Ferguson (Chicago): The paper presented by Dr. W. A. Tichenor, although the last on the program, is not at all of the least importance. The subject of retrodisplacements of the uterus and the manner of treating the same, is as interesting as any of the various opinions and procedures that have been advanced in the last twenty-five years. In the time allotted to the essayist, he has dealt with this subject very ably. The operative procedures recommended by Dr. Tichenor, are, in my opinion, correct. This does not exclude, however, a large number of other operations that have been performed through an anterior colpotomy incision. The operation of Emil Ries, of tunneling the uterus and draw-

ing the round ligaments through this tunnel, appears to me to be superior to the operations which fold the round ligament upon itself, as was formerly recommended by Dudley. An excellent procedure is that brought forward by J. C. Webster of this city, and it is probably an improvement upon all the vaginal operations when the uterus is not prolapsed. Byford, Campbell and a number of others perform operations through the vagina which are suitable in a large number of cases, and no doubt have good results. The only operation to be selected by the vaginal route is the one that anatomically and surgically suits the indications of the particular case.

I have devised and brought forward an easy method, and suitable for a number of cases, by which, through the vagina I suspend the uterus to the anterior abdominal wall, in the same position as left by the Kelly operation from above. The uterus is turned into the vagina through an anterior colpotomy incision, a ligature fixed to the posterior fundus of the uterus, a puncture made in the linea alba at the pubic fold and a blunt needle passed through the abdominal wall above the bladder into the vagina and threaded with the ligature already fastened to the posterior fundus of the uterus. The needle and ligature is withdrawn through the abdominal wall, and by fastening the one thread in the linea alba and tying it to the other half of the ligature, the uterus is suspended. The same objections to this operation maintain, that have been brought against the Kelly operation, because it is Kelly's operation without Kelly's technique. The result is exactly the same.

The operation which I prefer for all backward displacements of the uterus, is the anterior transplantation of the round ligaments, which I presented at the Denver meeting of the American Medical Association several years ago, and in every case where consent is given to open the abdominal wall from above, I do this operation without ever having had an accident or bad result.

Dr. O. Beverly Campbell (Chicago): I think we can hardly agree not to discuss this paper. The subject of retrodisplacements of the uterus generally brings forth a liberal discussion, probably for the reason that we have such a variety of methods of operative treatment, and as well because the profession are not a unit as to the indications for treatment in this class of cases. I can hardly agree with the position of Schroeder as regards simple cases of backward displacement being non-pathological, especially if of long standing. As regards the symptomatology, I believe there are some cases where no symptoms can be referred to the displacement. However I do believe that most cases do cause symptoms that may be directly ascribed to the displacement. As regards operative methods for correction of the displacement, I am becoming more convinced as my experience increases, that in the majority of cases of retrodisplacement that require operative measures for correction, it would be better to directly inspect the uterine appendages, either through an abdominal or vaginal incision.

Dr. C. H. Andersen (Chicago): I would like to have the president call upon Dr. VanHoosen, who is present, for discussion of this paper.

Dr. W. A. Tichenor: I am very thankful to the members of this society for the consideration they have given my paper. I would like to say in reply to Dr. Ferguson that I did not mean to be understood that I believe no other method but that of Dr. Webster's through the vagina, was useful. I did not take up the subject of operations through the vagina at all; I merely mentioned that it was possible to do Webster's operations through the vagina. I mentioned that there were a number of methods of replacing the uterus through the vagina.

MT. SAINT ROSE HOSPITAL.—The recent opening of Mt. St. Rose Throat and Chest Hospital, at 9200 South Broadway, has added an important unit to the group of modern hospitals in our city. Mount St. Rose is beautifully located on the bluff overlooking the river, the elevation and surroundings are all that could be desired. The building itself has been erected with the purpose to combine all that is best, and the purpose seems to have been accomplished.

FEEDING THE TUBERCULOUS.—The experiments conducted in the New York Polyclinic in an endeavor to more successfully combat tuberculosis have interested all physicians. Especial attention has been given the matter of nutrition. The so-called Russell emulsion (emulsio sevi et olei comp.) which was extensively employed has seemed to demonstrate the possibilities from proper feeding of this class of patients. The local profession has lately been liberally sampled with this product, and we are hearing favorabe comment from all who have used it.

TEASPOONS AS DOSE MEASURES continue in use in spite of the fact that they vary greatly in capacity. It is not necessary to collect souvenir spoons in order to find out the great discrepancy in the size of a spoon when compared to the regulation "one fluid dram" measure. Unfortunately, some of the dose glasses are as far from the mark as any teaspoon. If physicians and pharmacists will give the subject particular attention, they can soon educate the public up to the point of using only accurately graduated medicine glasses when taking liquid remedies.—*Meyer Bros.' Druggist.*

BROWNWOOD, TEX., October 8, 1902.

*Editor Medical Fortnightly:*—Enclosed please find my subscription to your journal for the year 1902. I read the FORTNIGHTLY with much pleasure. Fraternally yours, J. C. BISHOP, M. D.

# Digestive Disorders in Consumption with Mixed Infections.

By Paul Paquin, M. D.,

ASHEVILLE, N. C.

Member American Medical Association; Mississippi Valley Medical Association; American Public Health Association; North Carolina Medical Association, Etc.; Honorary Member St. Louis Medical Association.

**Read before the Mississippi Valley Medical Association, Kansas City, October 15, 1902.**

THE alimentary canal is to the human machinery what the boiler is to the engine: the internal source of energy for the whole thing. True, the brain and nerve power control it, but the nervous elements themselves can do this only because they receive nutrition through the alimentary canal. Without it they could not carry on their function. So, it is plain, that the nutritive function, after all, is the chief part of the foundation of all forces in a human being, and that without its aid, to a sufficient degree, the repair of damages, whether organic, functional or designated by any other name is an impossibility.

Consumption is usually a mixed infection. As presented to the special clinician or general practitioner, it is, in the vast majority of cases, a comprehensive exhibition of pathognomonic and pathologic phenomena, immeasurably more complicated than can be realized by either the historic, microscopic, nervous and physical symptoms, or all combined. Indeed, we have in human beings, in our country, at least, no disease capable of permeating so extensively, so overwhelmingly, so persistently and so ruthlessly all of the organs, all of the tissues and overmastering so gravely in one way or many ways, all of the faculties, as consumption. Nor is there another disease of mankind, so irregular in its strange complications or, so appalling in the destruction of individuals and the ruin of the human race. It is estimated that from one-fifth to one-seventh or more of the deaths of the people are due to consumption of the respiratory organs alone. We may safely add a large percentage to this deplorable destruction, as the consequence of tubercular affections of other organs or systems; for instance, tuberculosis of the joints, bones, spinal cord, brain, liver, peritoneum, skin, etc., etc. The total death rate then due to dis-

eases of tubercular complications, may be stated as problematical, but as surely predominating above and over any other human affection or affliction in civilization, and possibly more devastating than any zymotic disease in the world. Neither leprosy, with the horror of its name; nor Asiatic cholera with the terrors of its quick ravages; nor yellow fever, with its spasmodic destruction; nor smallpox with its repellant grossness has been responsible in equal time for the loss of human life that may be strictly accredited to tuberculosis in one form or another. Indeed, it is doubtful if all these plagues together have sent as many people to the grave as tuberculosis has. In fact it is *the* plague of civilization. Say or think what you will, the truth is, that we are all exposed to it momentarily; that its germs are with us always; that the majority escapes *not because they are not attacked, but because they resist the attacks.* And here is the problem of protection: *A condition that will prevent germs of consumption from developing in the system, and if they do get a start in growth, a condition that will stop them.*

I am quite aware that medical men of reputation, have of late, made capital of the (seemingly new) idea that tuberculosis is not due to germs alone, and, that when we speak of tubercle germs as the cause of consumption, we utter things very vague. Well, this pronouncement is wonderful only to those who have not grasped pathologic and bacteriologic evolution from the beginning. No enlightened pathologist ever thought that the germ of consumption (the bacillus of tuberculosis) could grow irrespective of soil conditions. Such a notion is, and always was to scientific men, as preposterous as it would seem to any mind to believe in the growth of cornstalks from corn seeds planted in a barren, paved street, run over continually by vehicles and street cars.

It is an old story, then, that the bacteria that bring about phthisic lesions are plants that cannot grow without proper nourishment and surroundings. It is for this reason that we do not all succumb to their development. It would seem almost childish to have, in 1902, to revert to this old and simple proposition, so often discussed before and which was settled at the very outset of bacteriology, or at least as far back as I can recall in my medical studies, certainly as far back in the past as 1881; but it appears to be necessary, because, very recently, as I have just suggested, some medical writers have thought, judging from their published statements, that they were bringing forth new points in medicine when they expressed the opinion that tuberculosis could not exist without proper nutritive field. By their learned talks and print they appear to have disturbed those who have not been fortunate enough to follow at the same time, the scientific and practical advancement of medicine.

Now, to come to our topic, digestion and indigestion in tuberculosis.

As first indicated, the digestive apparatus is *the* system upon which vital energy chiefly depends. If it does not carry on its functions with sufficient effectiveness and persistency, life is a nightmare, and when sick, recovery is a serious problem. So, with respect to such a disease as consumption (properly named, for it does consume the system in every sense of the word), the most vital question is that of nourishment, where-

upon one may base such measures of treatment as may be deemed best for restoration. Without nourishment of a sufficient kind in quantity and quality, nothing will avail in therapeutics. You may have proper climatic conditions; your specifics in the form of serum, or any proper and justified drug; you may add to them the various ordinary and extraordinary measures of daily practice, still you cannot arrest tuberculosis without the assimilation of sufficient and proper food. The alimentary canal must, first and above all, be considered and made effective enough to furnish its quota of the fuel necessary to operate the human machine in all its parts, particularly in its defensive forces, which include more especially cellular regeneration, phogocytosis and the antitoxic powers of the structure and circulation.

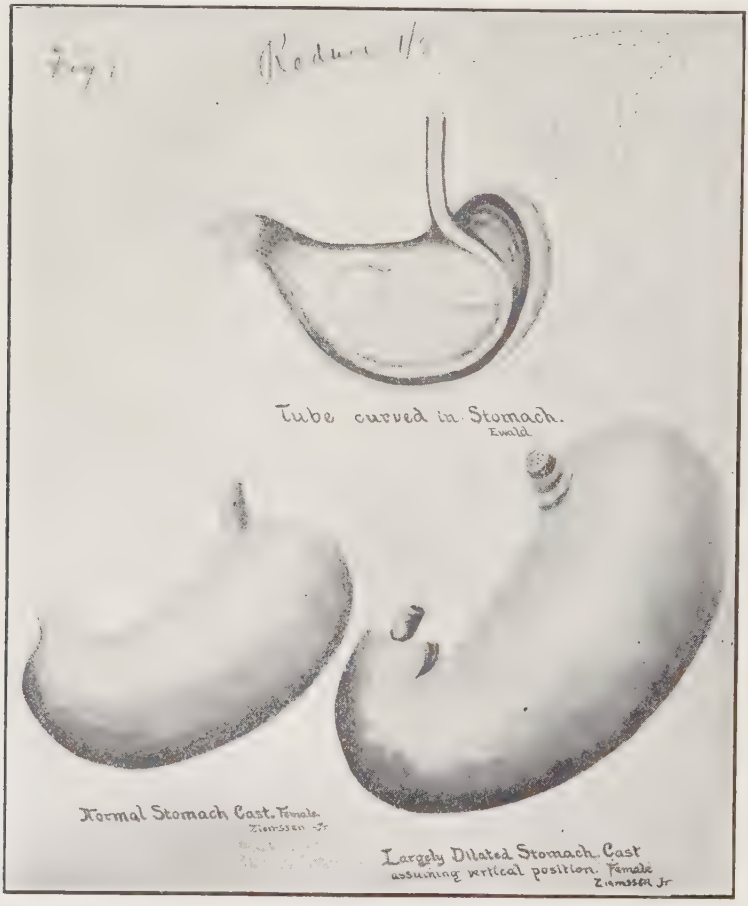
Phthisis is considered, usually, very loosely. It means, to most of us, only lung consumption. Who thinks of any other organs as being more or less involved in phthisis? Yet, the pulmonary form is by no means a disease of the lungs alone. At certain stages of its development far reaching pathologic changes occur elsewhere. When breaking down of the lungs begins, for instance, it is *probably never* a disease affecting the respiratory organs exclusively. On the contrary, it *probably always* affects the digestive tube the whole length, at least from the esophagus to the anus, which means practically all of it. And in this statement I do not mean to say simply that in consumption there exists indigestion or dyspepsia; I mean to say that *preceding* consumption, there may exist digestive disturbances of a characteristic kind, which are indicative of *coming tubercular manifestations*, and, that, in certain stages of tuberculosis, there exists almost invariably, if not *always*, some gastro-intestinal lesions of a most serious kind, which very gravely interfere with the efforts made in the line of treatment. Dyspepsia preceding pulmonary tuberculosis was referred to as far back as 1826, by Wilson Philip, in a treatise on digestion. After that it was studied by Todd, who wrote on the subject in 1833. Their opinion, endorsed in 1835 by Sir James Clark, and later more or less positively by Hutchinson, Brinton and others, was that there exists an unique form of dyspepsia that precedes pulmonary consumption. Soltau Fenwick, as recently as 1894 expressed himself affirmatively on the subject, and mentioned two varieties of anti-tubercle dyspepsia, the atonic and irritable forms.

That a more or less prolonged siege of dyspepsia, involving the stomach or bowels, or all of these organs is often met with prior to the exhibition of consumption symptoms, is unquestionable, and it is very seldom considered by the practitioner. But, that preceding tuberculosis, it stands as a specific causal relationship is quite doubftul. I rather incline to the belief that such a dyspepsia begins, as a rule, after the tubercular infection has begun, but before it is manifested exteriorly, though sufficient to impress the sytsem internally and reduce the digestive powers more or less. We will consider these two forms of pretubercular (?) dyspepsia further on.

The first things to study in the dyspepsia of tuberculosis are the morbid state and the pathology of the alimentary canal. They constitute a most important question, because they reveal not only functional disturb-

ances, as we are too apt to think, but certain changes that are always more or less rebellious, often irreparable, and which demand generally special therapeutic measures. However, I can only be brief in the treatment of these in this paper.

Dilatation of the stomach is one of the common abnormalities of pulmonary consumption. It appears to exist in at least 50 per cent of the




advanced cases. This organ extends down frequently far below the umbilicus, assuming various shapes according to the distention, sometimes pulling down the pylorus several inches below its natural place.*

The capacity of the stomach varies from 8 fluid ounces to 50, according to individuals, but, as Ewald says, there is no standard size and the

* See casts in pictures.

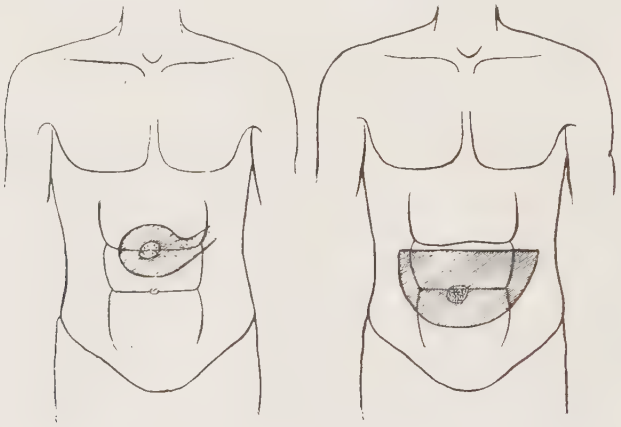
capacity does not have a fixed relation to the size of the body. Consequently, it is difficult to say when a stomach is distended enough to be classed as morbid. A slightly enlarged stomach in one individual may be a source of trouble, whereas, in another, a seemingly large dilatation may cause no inconvenience. However, the existence of a dilated stomach in tuberculosis, no matter to what degree, should always be taken into account in the work of repair, for the walls of such a stomach and the secretory structure are more or less diseased. Gross and sometimes microscopic changes exist to some extent.

The muscular layers may be thinned out, atrophied or hypertrophied. The cells of the mucosa may be the victim of cystic or other forms of degeneration and exhibit pathologic signs of gastritis. Such a stomach in tuberculosis is usually accompanied with catarrhal manifestations. The inflammation becomes chronic and digestion more and more impaired until a patient often thinks that the stomach is the seat of the malady itself, instead of the lungs. How many advanced consumptives exclaim to their physician, "Doctor, it is my stomach that hurts me. My lungs are all right!" And again, "The stuff that I raise comes from my stomach!"

Chronic catarrh of the stomach in consumptives is not limited to cases of dilatation, however—it is more frequent than that. In the last stages of the disease, particularly, it is a common morbidity, due to various causes, among which is the fermentation of food by bacteria. In consumptives who swallow their sputum or nasal secretions for instance, numerous extraordinary germs reach the stomach, which, in its enfeebled condition, sometimes suffering from alteration in its secretory structure, is incapable of destroying them. I here exhibit a picture made from the chyme taken one morning from the stomach of a consumptive with cavities. In this instance I found even the bacilli of tuberculosis in the organ. The production of a mixture of toxins and irritant substances by fermentation in such a case is easily imagined. A catarrhal condition is inevitable in comprehensive disorders of the kind.

Among other morbid states of the stomach of consumptives at certain stages are "mamillation" by which "the mucous membrane is closely beset with minute elevations;" the honey-combed appearance in which the membrane is pitted in a peculiar fashion; punctiferous hemorrhages; ulceration and hemorrhagic erosions. The latter two lesions are not uncommon. I many times verified their existence by stomach lavage and microscopic revelations. Those who have had opportunities to study these lesions in the laboratory, claim that they are not due to local tubercular infection, although they seem to be the result of tubercular disease. Tubercles in the stomach are very rare and of themsleves are seldom a source of grave dyspepsia, but they may produce erosions and hemorrhages. The bacilli that reach the organ find there a meagre field for their growth, and meet antagonism in the acid; they go down into the bowels, where the lymphoids favor them and whence they may scatter throughout the system. We have, then, during consumption, gastritis due to different factors, sometimes several combined, and our treatments should be selected accordingly.

If the stomach alone were involved in tubercular dyspepsia, we might succeed more readily than we do in correcting this difficulty, but unfortunately, the morbid state extends generally throughout the intestinal tract, ending its continuity not infrequently with hemorrhoids. We have, therefore, a form of enteritis also in consumptives, at least in certain stages. The organs involved and the extent of pathologic phenomena warrant us to designate the general complex causes of the usual dyspepsia of consumptives as "gastro-enteritis of phthisis," as Fenwick has it. "The essential feature" of the pathologic conditions of gastro-enteritis, says Fenwick, "consists of an intestinal inflammation of a chronic type, affecting in a varying degree of severity, the whole of the gastro-intestinal tract from the stomach to the rectum, with secondary changes in the glandular structures." I might add to this, that even the bucal cavity and the esophagus some time participate in this general abnormality, for



Normal Stomach. Dilated Stomach. —EINHORN.

the salivary glands, gums, teeth, tongue, etc., occasionally exhibit peculiar characteristic signs of digestive distress in consumptives. Eventually the stomach tissues may undergo cirrhosis. In the pathologic process of the bowels the duodenum seems to suffer the most, becoming also cirrhotic. The rest of the bowels change more or less in a similar manner.

It is a grave problem then, that we have to deal with when we have to combat dyspepsia in consumptives. It not only evidences more or less intractable physical and organic changes in the volume and structure of the digestive organs, but implies that the tubercular ravages are *far advanced.*

We have spoken of so-called pretubercular dyspepsia. This kind of dyspepsia is not the same as that resulting from the morbid states and structural changes just described. The latter comes in the vast majority of cases, only with the process of lung destruction, such as softening,

caseation, excavation, etc. This is a very important fact for us to remember, for it is of value in prognosis in pulmonary tuberculosis.

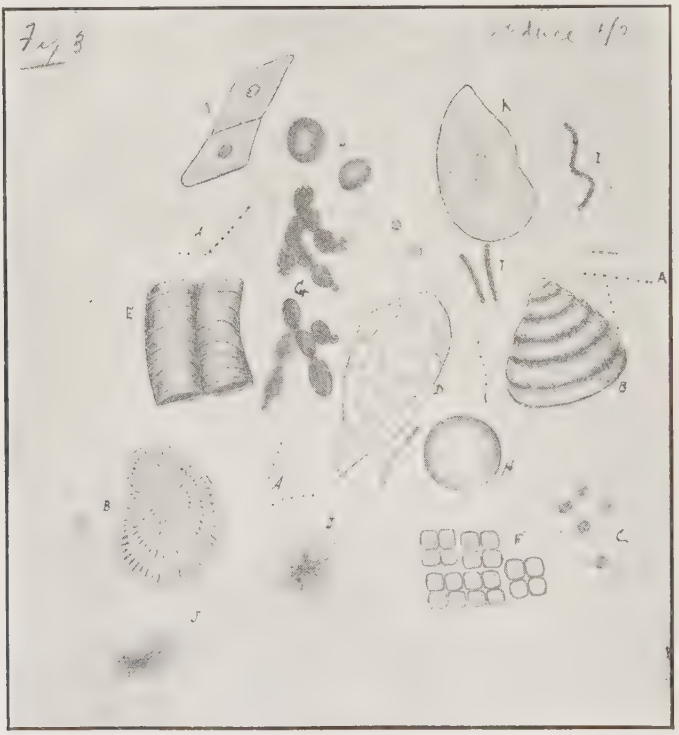
With respect to dyspepsia *preceding* consumption, we may sum up the situation in a few words. As stated at the beginning, I believe it is due to the first disturbances of tubercular evolution before it is manifest outside. If this is the case, it is not pretubercular. I believe, also, that it is usually functional. In any event, it is more readily corrected than the dyspepsia above discussed. Owing to its seeming connection with the development of consumption, it behooves the profession to be on the qui vive in every case of persistent dyspepsia in which tubecrulosis is not manifest. Such instances should be watched closely, examination of the lungs made at frequent intervals, particularly if there exists cough, no matter how slight, or disturbances of the circulation, such as exhibited by flushing of the face, hot or cold feet, clammy or sweating hands, which are sometimes associated with tuberculosis long before any marked physical symptoms arise.

As stated before, this kind of dyspepsia appears in two forms, the atonic and irritant. The first is more common in females than in males between the ages of 15 and 25, or perhaps 14 or 30. It sometimes begins during the convalescence in some fever or other, such as typhoid fever, measles, diphtheria. The first symptoms of importance may consist of acute pain in the epigastrium after a meal Vomiting may occur occasionally. A catarrhal condition with loss of appetite and increase of thirst arises, eventually followed by its usual train of digestive distress and disturbances. One common form of disorder very early in this dyspepsia is the abhorrence of patients for fat—particularly beef and mutton fats, not so frequently bacon or ham fat. In some instances, the very odor of meat is repulsive. In atonic dyspepsia of persons born with tubercular taint, the pain at the epigastrium is very often absent. There is instead a decided feeling of weight and malaise.

The irritant variety attacks men chiefly, from the age of 25 to 40, particularly those slimly built and tall. It also begins with abnormal sensation at the epigastrium. At the start of the disease it is usually a mere uneasiness after meals. Sometimes it occurs only after breakfast. By degrees it becomes worse until it is actual pain. The food ferments, becomes acid, and there occurs sour eructations. Finally such troubles more or less serious occur after every meal; vomiting takes place, exhaustion occurs and the patient becomes depressed and irritable. Appetite gets to be very capricious, being absent one meal or one day and ravenous the next. Sometimes aversion to food previously relished occurs. Usually the tongue is deep red and pointed, occasionally affected with injected papillae at the end. Not uncommonly, according to Fenwick, and I can substantiate his assurances, there exists frontal and vertical headache, disgusting taste in the mouth and a feeling of extreme weakness. I have seen besides in such cases, a peculiarly profuse general perspiration towards morning, and of the arm-pits alone under various circumstances not affecting other persons. If one examines the chest of such a patient nothing wrong may be found the first time, but if one persists and exam-

ines it often, under different circumstances, some abnormal conditions may be found sooner or later. Suddenly, as a rule—at least it seems sudden to the patient—he complains of a cold in the chest. Then you find congestion of some kind, or infiltration, and soon you have unquestioned evidences of pulmonary tuberculosis.

There is also a variety of dyspepsia which seems to "usher in" or "accompany" the first stages of pulmonary tuberculosis. Notwith-



Found in Stomach Contents in a Case of Ischochymia of a Dilated Stomach of a Consumptive. Case, A. C. 1896.—Paul Paquin.

A, bacilli of tuberculosis. B, starch. C, cocci. D, vegetable cells. E, muscle fibres. F, sarcina. G, yeast plants. H, fat globules. I, streptococci. J, fat crystals. K, epithelial cells.

standing the different opinions on this form of indigestion I am constrained to say, from personal investigation, observation and analyses, that to me, it is nothing else than the kind of dyspepsia first discussed, viz., the dyspepsia preceding consumption. The symptoms are simply changed and intensified by virtue of longer disturbances and the complicating factors with the increasing damages of tubercular infection and the consequences upon the nervous system, the circulation,

the tissues directly responsible for digestion, etc., etc. So, I will not take your time to describe this special dyspepsia, which might be properly termed, the usher-in stage of the dyspepsia preceding pulmonary tuberculosis.

The forms of dyspepsia most important to the physician are those seen *during* the progress of *manifested* consumption, because they are seldom absent when a consumptive comes to a doctor, and need such persistent care when present. In fact, those who treat consumptives scientifically, and aim to cure them, know that *none of them can recover*, unless, by some process or other, dyspepsia is prevented or cured. Whatever measures of restoration may be applied to arrest the disease, none can get well without proper assimilation of food, and all treatments that neglect this question are mere placebos, often worse than useless, even sometimes where they prolong a miserable existence.

When destruction of tissue occur, the dyspeptic phenomena becomes generally very serious. Then it is simply essential to consider them.

It is scarcely necessary to analyze the dyspepsia symptoms accompanying such tubercular conditions. They are practically those enumerated above plus still more increased intensity and complications of food fermentation with auto-intoxication. All of us have seen these symptoms, and, if we keep in mind the morbid states and pathology briefly scanned at the beginning of this study, we will form satisfactory opinions looking to restoration. Epigastric distress, sour stomach, tympanitis of various parts of the gastro-intestinal tract, bile regurgitation, mucoid, watery and fragmentary stools, diarrhea, dysentery, hemorrhoids, prolapsed stomach, mental depression, etc., etc., are all liable to be present, and fever may be increased materially, and very suddenly, too, by the action of intestinal toxemia, added to the biologic respiratory intoxication.

As already indicated, some authorities in discussing the various forms of dyspepsia preceding, initiating and accompanying pulmonary tuberculosis, have divided them as if they were each of absolutely separate nature. Of course there is some reason for distinction, but I argue again that all of the varieties have a common cause and some common abnormalties and need differentiation only to the end of deciphering the existing lesions and the application of suitable treatments. In a general sense, consumption dyspepsia is an entity with varied lesions and manifestations.

The therapy of tubercular dyspepsia is as varied as the therapy of other forms of digestive disturbances. I cannot undertake to review it here in detail. The best I can do is to suggest to those interested, that a close study of the authorities on gastro-intestinal diseases and close observation of the gastro-intestinal troubles of their tubercular patients will pay them well, and to advise them of my experience in a general way.

Bearing in mind the pathology of the gastro-intestinal affections accompany consumption, one will realize how futile it usually is to drug and drug without knowledge of this pathology and its results when trying to cure tubercular dyspepsia. One will reason that the normal condition of the mucosa must be at least in a measure restored before good digestion can recur. What may accomplish this sufficiently for good digestion? It

is doubtful if anything can in advanced tuberculosis, but in the beginning or second stage decided improvement and often a cure is possible.

First and foremost among local measures to that end are stomach and high intestinal lavage. As a general rule, nothing restores the power of digestion more positively and more quickly than this practice properly carried on. I have known patients going down, down steadily from the ravages of consumption and consequent dyspepsia, to gain two to four pounds a week after the addition of a weekly or semi-weekly lavage of the stomach alone to their treatment. Some authorities object to this treatment on the ground that hemorrhages may be produced by the occasional straining of nausea. This objection is not well founded. Paradoxical as it may seem, few hemorrhages of the lungs come after exertion or strain. On the contrary, they come usually at night, when the patient is resting, or, in any event, when free from strain of any kind. I have had recourse to gastro-intestinal lavage by the syphon method in consumption for many years, and I have yet to meet with the first accident. Besides, *dexterous* use of the stomach tube is far from being as nauseating as has been claimed. In fact, in institutions where the treatment of intestinal diseases is a daily feature, the nurses become trained sufficiently to practice lavage of the whole alimentary tract. This practice obtains, in a good many cases under the supervision of their physicians, at "The Halthenon," at Asheville, N. C., where all approved methods of physical therapy are available. Another general measure of treatment which has proved very useful in my hands is the faradization of the stomach by using Einhorn's intra-stomach electrode, and on the outside of a large flat electrode, say six to twelve inches in diameter. For general atony of the digestive tube, an electrode may be used in the stomach and another in the rectum after an enema. Steady currents and induced currents are also useful in special conditions, which I have not time here to enumerate. As specific measures serotherapy, the cacodylates and iodine seem to offer the greatest aid in preventing organic changes. The properly prepared immunizing anti-tubercle sera, are sometimes particularly effective because they are antagonistic to the tubercle toxins, which are in a large measure responsible for such lesions. As to diet, it must be regulated after more or less complete knowledge of the chemistry of the digestive elements, and their digestive powers which analysis alone can approximate. Of course the physical faculties and conditions of the alimentary canal must be taken into due consideration also.

Often one must resort to artificial foods, such as the peptonates, or plasmon so strongly recommended by the late lamented Virchow, who considered it a superior article in nutritive qualities. I have found it to be quite free from irritating properties, even in very seriously damaged stomachs, and it seems to be as truly nourishing as Virchow stated. Another nourishment which I have found as advisable as it has been claimed (by the French) to be, is raw beef juice, made fresh daily. Patients can digest sometimes the juice of one to six pounds per day of beefsteak, and even after that eat their regular meals more or less satisfactorily, according to circumstances.*

* Unfortunately beef juice presses that can extract all the juice are wanting. The Hayes Press, Erie, Pa., is perhaps the only one.—P.

Mixed infections in tuberculosis offer the greatest complexity in the dyspepsia that accompany the disease. This is probably due to the more general and serious effect of the combination of the numerous kinds of germ poisons produced in such cases, both in the lungs and alimentary canal.

I now wish to draw your attention to some illustrations I here present to the audience, showing the various damaging germs often found in the sputum of mixed cases, in which the question of digestion is such an important factor. You will see in these pictures that the pneumococcus appears in perhaps all cases of so-called congestion, infiltration, etc., in pulmonary consumption.†

I would discuss medical treatment and dietetics at length, but, as suggested before, it would carry me too far, and the authorities already mentioned, whose name I append in the bibliography of this paper will afford better information than is at my command. My purpose in bringing this meagerly treated subject before you, is rather to rouse interest in the very important question of digestive affections in tuberculosis than to instruct any one on the points involved. If I have succeeded in a measure in this task, I shall have accomplished some good.

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## The Protection Against Smallpox by Successful Vaccination.

By Marcus H. Thomas, M. D.

HUNTINGTON, INDIANA.

I SHALL not attempt to review smallpox prior to the promulgation of vaccination by Edward Jenner (1798), as full details have been previously given by eminent writers; suffice to say that the work of Jenner constituted one of the greatest epochs in the history of medicine by bringing under control that terrible plague, variola, which up to that time literally over-run and ruined the world; neither shall I burden you in detail with the extensive researches since made in order to establish the positive prophylaxis of vaccine virus against smallpox. The evidence is so overwhelming that as intelligent physicians we must concede that vaccination is long past the experimental stage, and has become one of the *fixed* laws of medicine.

I shall endeavor to confine my paper to the present conditions which confront every physician when dealing with smallpox epidemic that he may have the confidence of the public by demonstrating:

First.—That vaccination is the only means by which smallpox epidemics can be aborted.

† These pictures of mixed germs in tuberculosis are not among the plates.

Second.—That vaccination when properly performed is without danger, thus we can adjust the many erroneous impressions obtained as the result of the fallacious statements made by the anti-vaccinationists.

I wish to supplement my paper with some brief, interesting reports furnished by writers of experience.

Barry in the Sheffield epidemic of 1887-88 reported to the Local Government Board the following statistics which show the comparison between cases vaccinated and unvaccinated:

"In children under 10 years of age, the attack rate of the vaccinated was 5.0 per thousand, while the attack rate of unvaccinated children was 101.0 per thousand. The death rate in the same class of children vaccinated was only 0.09 per thousand, while the death rate of unvaccinated children was 44.0 per thousand. In persons over 10 years of age twice vaccinated the attack rate was 3.0 per thousand, once vaccinated attack rate was 19.0 per thousand; unvaccinated attack rate was 94.0 per thousand. Death rate in the same class of people twice vaccinated was 0.08 per thousand, once vaccinated was 1.0 per thousand and unvaccinated 51.0 per thousand." Barry's report further shows "that of 8,198 persons revaccinated prior to this epidemic only 25 were attacked, showing the attack rate less than 3 per thousand and death-rate of 0.1 per cent."

From Leicester in the epidemic of 1892-93 the official report by the Health Officer is as follows:

UNDER TEN YEARS OF AGE.

| | Cases | Deaths. | Death-rate Per cent. |
|---|---|---|---|
| Vaccinated | 2 | 0 | 0.00 |
| Unvaccinated | 105 | 15 | 14.30 |

OVER TEN YEARS OF AGE.

| | Cases. | Deaths. | Death-rate Per cent. |
|---|---|---|---|
| Once Vaccinated | 176 | 1 | 0.57 |
| Unvaccinated | 48 | 4 | 8.30 |
| Revaccinated | 14 | 0 | 0.00 |
| Doubtful as to vaccination (no marks visible) | 2 | 1 | 50.00 |

Whittington, in Derbyshire, in 1893-94 had 135 cases and 13 deaths. The following is from the local medical health officer: 482 persons living in houses invaded with smallpox.

| Unvaccinated. | Attacked. | Death-rate Per cent. |
|---|---|---|
| 23 | 82.7 per cent | 26 |
| Vaccinated in Infancy. | | |
| 459 | 25 per cent | 1.5 |

No vaccinated person under two years of age died.

Gayton's analysis 10,403 cases in the Metropolitan Smallpox Hospitals, tabulated according to ages, and subdivided into four classes:

First.—Where vaccination marks were good.

Second.—Where vaccination marks were imperfect.

Third.—Vaccination marks obliterated, although said to be vaccinated.

Fourth.—The unvaccinated; illustrates the increased susceptibility and mortality of exposed unvaccinated individuals over the vaccinated showing good marks:

| Ages | Vaccinated, Good Marks | | | Vaccinated. Imperfect Marks | | | Said to be vaccinated, no marks | | | Unvaccinated | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 to 5 | 51 | 0 | .0 | 182 | 21 | 11.5 | 128 | 47 | 36.7 | 677 | 383 | 56.6 |
| 5 to 10 | 267 | 2 | 0.7 | 714 | 48 | 6.7 | 325 | 87 | 26.8 | 1187 | 563 | 47.4 |
| 10 to 20 | 1045 | 17 | 1.6 | 1976 | 98 | 5.0 | 419 | 81 | 19.3 | 521 | 160 | 30.7 |
| 20 to 40 | 725 | 37 | 5.1 | 1898 | 258 | 13.6 | 420 | 140 | 33.5 | 382 | 181 | 47.0 |
| Over 40 | 48 | 6 | 12.5 | 266 | 51 | 19.2 | 131 | 44 | 33.8 | 79 | 34 | 43.0 |
| All ages | 2085 | 62 | 3.0 | 4854 | 455 | 9.0 | 1295 | 352 | 27.0 | 2169 | 938 | 43.0 |

The following table which is arranged according to locality, will show conclusively the diminution in the deaths actually from smallpox per million inhabitants since vaccination has been employed.

| Locality. | Before Vaccination, | After Vaccination. |
|---|---|---|
| Sweden | 2,050 | 158 |
| Austria | 3,095 | 841 |
| Torest | 14,046 | 182 |
| Moravia | 5,402 | 255 |
| Silesia (Australia) | 5,812 | 198 |
| Prussia (Eastern) | 3,321 | 56 |
| Berlin | 3,422 | 176 |
| Copenhagen | 3,128 | 286 |
| | 40,276 | 2,152 |

In other words, these eight localities show that the mortality has been reduced 94.66 per cent.

The following table, which is arranged in years, subdivided in nine periods from 1660 to 1892, will show the average annual deaths per million from all causes compared with the average annual deaths per million from smallpox in London.

| Years. | Average Annual Deaths per Million from all causes. | Average Annual Deaths per Million from smallpox. |
|---|---|---|
| 1660-79 | 80,000 | 4,170 |
| 1728-57 | 52,000 | 4,260 |
| 1771-80 | 50,000 | 5,020 |
| 1801-10 | 29,200 | 2,040 |
| 1831-35 | 32,000 | 830 |
| 1838-53 | 24,900 | 513 |
| 1854-71 | 24,200 | 388 |
| 1872-82 | 22,100 | 262 |
| 1883-92 | 19,800 | 73 |

The above table illustrates that while the mortality from all causes has been greatly reduced, 75.25 per cent, due to improved sanitation, the mortality from smallpox during the same period has been reduced much greater, 98.25 per cent, *due to vaccination.*

In Scotland 1855-64, vaccination optional, mortality from smallpox was 340 per million inhabitants. From 1865 to 1890, vaccination compulsory, mortality was only 80 per million inhabitants.

In Sweden, Edward gives the following interesting smallpox statistics 1774 to 1801, average annual death rate per million people was 2,008. 1801 to 1815, vaccination optional, death rate reduced to 631. 1816 to 1885 vaccination compulsory, death rate only 173. The last eight years of this period the mortality has been still further reduced to 41 per million.

| | In Boston. | Population. | No. Smallpox Cases | Deaths. |
|---|---|---|---|---|
| | 1721 | 11,000 | 5989 | 850 |
| | 1730 | 15,000 | 4000 | 500 |
| Introduction of vaccination... | 1811-30 | Greatly increased | | 14 |
| | 1881-87 | " | " | 18 |

In Massachusetts from the 29th annual report of the State Board of Health, we get the following figures:

| | Cases of Smallpox. | Vaccinated. | Mortality. |
|---|---|---|---|
| 1888-97..... | 330 | 143 | 6.3 |
| | | Unvaccinated. | |
| | | 149 | 25.5 |

The following table, arranged according to ages of the children attacked, demonstrates the difference in the mortality of the vaccinated compared with the unvaccinated:

| Age 0.1 year. | Attacked. | Died. | Mortality. |
|---|---|---|---|
| Vaccinated..... | 0 | 0 | 0 |
| Unvaccinated ..... | 18 | 0 | 0 |
| Age 1 to 15 years. | | | |
| Vaccinated..... | 20 | 0 | 0 |
| Unvaccinated ..... | 77 | 15 | 19.5 |
| Age over 15 Years. | | | |
| Vaccinated..... | 120 | 9 | 7.5 |
| Unvaccinated ..... | 71 | 23 | 32.4 |

Baltimore, Md., Ruhrah of the Quarantine Hospital, furnishes us with the following statistics—1106 cases:

| | Cases. | Deaths. | Mortality, |
|---|---|---|---|
| Vaccinated at some previous time.... | 441 | 63 | 14.3 |
| Unvaccinated..... | 645 | 315 | 48.8 |
| Vaccinated, but unsuccessful..... | 20 | | |

Most of the vaccinated cases had a mild discrete form of smallpox, while most of the unvaccinated suffered from a dangerous confluent form.

Philadelphia, Pa., Dr. W. M. Welch, in charge of the Municipal Hospital, from a study of 500 cases: Vaccinated, showing good vaccine cicatrices, 8 per cent mortality; vaccinated, showing fair vaccine cicatrices, 14 per cent mortality; vaccinated, showing poor vaccine cicatrices, 27 per cent mortality; unvaccinated, 5 per cent mortality.

In New York City prior not 1776 vaccination was not much encouraged, the mortality was 59.57 per 100,000. Since vaccination has been generally adopted, while not compulsory, the mortality has been reduced to 8.38 per 100,000.

In Porto Rico, Dr. Geo. Groff, secretary Superior of Health Board, in his report under date of October 23d, 1899, published in the Philadel-

phia Medical Journal, states that although nine months previous to this report that a serious epidemic of smallpox threatened the island, during the period that intervened 800,000 vaccinations were performed with the result that not a single case of smallpox to his knowledge remained.

As often the question arises, which form of bovine vaccine virus, glycerinized or dry, is the more reliable and safe product to use, I will cite the results reported in several different localities in the United States, each in series of large number of vaccinations, and in some instances both dry and glycerinized virus used.

In the American Gynecological and Obstetrical Journal of September, 1899, Baltimore Health Board reports considerable over 100,000 vaccinations with glycerinized lymph, results indicate successful takes in about 95 per cent, and not a single case of smallpox followed vaccination with this lymph. The number of excessive sore arms did not exceed 1 per cent.

Minneapolis, first series, 3045 vaccinations with glycerinized lymph with twenty-nine failures, all secondaries. Second series, 3875 vaccinations resulting in four failures in primary vaccinations and fifty-one in secondary.

Cleveland practiced widespread vaccination with both points and lymph and abandoned the points. One series of 20,000 vaccinations with glycerinized lymph gave over 90 per cent of successes, and septic complications were almost entirely absent.

In Richmond, Norfolk and Portsmouth, no accurate records were kept, but more than 120,000 vaccinations were used with more than 90 per cent of success.

The experience of Norfolk was particularly valuable. At the beginning of the smallpox outbreak, dry ivory vaccine points were extensively used. Smallpox in a great number of instances followed the use of these points.

A further multiplication of these facts would needlessly take up your time, and I will only add extracts from a letter from Edward P. Odend-'hal, M D., physician-in-charge of the Craney Island Hospital, Norfolk, who states having been in close touch with the smallpox situation in Norfolk since November, 1898, and having observed closely the results of vaccination, gives a few points that to him have been prominent concerning vaccination.

In November, 1898, the city of Norfolk, Va., made vaccination compulsory (due to the appearance of several cases of smallpox in the city) over 40,000 vaccinations were performed (with dry points), with most unsatisfactory results. The vaccinations, Dr. Odend'hal says, he can safely say, in 90 per cent of the cases were of no account, and in consequence of such poor results the disease became widely spread.

During Dr. Odend'hal's term of medical inspector and assistant health officer (from November, 1898, to September, 1899), one problem of great importance concerned the minds of all that were connected with the smallpox work, namely: How to eradicate the disease from the city jail, where it had gained a strong hold.

Dr. Odend'hal further states that they used various products of vaccine with no appreciable results until they began to use *glycerinated vaccine lymph.*

In a short space of time he says they had totally stamped out the disease and to the best of his knowledge there has never been another case within its walls. He says this one fact alone sufficient to convince him that he is sure many others, that knew the fact, that without the aid of glycerinized lymph, the jail situation would still be a matter of much concern.

Since the opening of the Craney Island Hospital, on April 11, 1900, the doctor had under his care, eighty-two cases of smallpox and thirty-four suspects, who were vaccinated when admitted, and in not a single case has a smallpox suspect developed the disease, although twenty-six of them have lived in the same wards with the patients, the cases being such a nature that separation was impossible.

In many instances mothers have nursed their children during the course of the disease where he vaccinated them with glycerinized lymph during the first three or four days after exposure. The doctor feels perfectly safe in allowing mother and child to be together, and has never as yet seen smallpox develop in these cases.

Huntington, Indiana, the following statistics were very carefully prepared by myself from my own experience with glycerinized lymph in the recent epidemic in our city from February 28th to March 5th inclusive:

| | | |
|---|---|---|
| Number of vaccinations performed | | 237 |
| Cases that had been previously vaccinated, within 7 years and revaccinated during this period | | 33 |
| Cases that had been vaccinated over 7 years ago and revaccinated during this period | | 87 |
| Cases of primary vaccinations during this time | | 117 |
| | Takes. | Per cent. |
| Of the 117 never previously vaccinated or primary cases | 117 | 100 |
| Of the 87 secondary vaccinations previously vaccinated over 7 years ago | 81 | 93.1 |
| Of the 33 vaccinated previously within 7 years | 9 | 27.3 |
| Total failures in 237 primary and secondary vaccinations from causes given above | | 30 |
| Total failures in 117 primary vaccinations | | 0 |

Of the 30 failures, primary and secondary, 19 were adults, 11 children.

Of the total number of 237 vaccinations, 186 were children, 51 adults.

*No sore arms* noted in any case. Patients in four cases had some nausea, malaise and fever for about two days when vaccination begun to take. In average cases, vesicle was about five days in forming.

I especially beg to emphasize that of the 237 vaccinations I had not a single sore arm, other than the usual manifestations occurring during the course of a typical vaccination.

Fully realizing that in order to obtain the desired results my technic must be as perfectly aseptic as though I were going to perform a laparotomy, I employed the following technique:

The area was first thoroughly scrubbed with castile soap and hot water, to which I added sufficient carbonate of ammonia to give the water a decided ammoniacal odor; in children and women with tender skin this must be reduced proportionately.

The advantage I found in the above alkaline solution was that it more effectually removed the scaly epidermis and oily secretions from the sudoriporous glands, opening up the pores, etc. After the parts was thoroughly rinsed with sterile water, I bathed the surface with pure alcohol, dried with absorbent cotton, sterilized my needle each time immediately before vaccinating, by passing it through an alcohol flame until red hot, allowed to cool, I scarified an area from one-eighth to one-fourth inch square, exercising care to draw no blood, applied thereon glycerinized lymph, covered the vaccinated area with an aseptic shield; this shield I have found to be a most convenient and reliable protection. It is made of celluloid, and has four small holes in the top surface. The shape is such that it does not conform exactly to the arm, having only two points of contact, one at either end, fastened by adhesive strips, the advantage of such a shield is that it can be removed and cleansed every day; it permits of free circulation of air and does not in any way induce congestion of the underlying tissue. Similar shields can be obtained made of muslin; these can be very conveniently asepticized by wiping the concaved or under surface with absorbent cotton saturated with alcohol, the shields become dampened with the alcohol and when passed through a flame the alcohol burns off without injuring the shield.

The cycle of vaccination in all these cases was a typical Jennerean type, passing through papular, vesicular and pustular stages. On the 5th to 7th day the vesicle formed, surrounded by an areola from $\frac{1}{4}$ to $2\frac{1}{2}$ inches in diameter. Vesicles became umbilicated, contained a drop of serum passed into pustule and desiccated, about 14th to 20th day scab fell off. Where scab formation was interfered with there occurred a slight weeping of a serous fluid for a day or so, but no purulent ulcer formed.

In one case, that of a ditch-digger, the scab was knocked off, resulting in some infection entering the wound, possibly from his undershirt, there was some suppuration, but not sufficient to cause him any discomfort or prevent him from working each day.

I have demonstrated to my own satisfaction that there is such a thing as a perfectly aseptic and harmless vaccination and that pus formation follows vaccination always means infection from some other source. To prevent this it is essential to observe the following precautions: First.—To have the area thoroughly asepticized. Second.—Scarifier perfectly sterilized. Third.—Scarify a small surface and never draw blood. Fourth.—Use a reliable glycerinized vaccine. Fifth.—Vaccination should be protected by an aseptic dressing, from the time of inoculation until the wound is completely healed. Is this always done? I am afraid that vaccination is too often considered such a minor operation that it is not thought worthy of the physician's consideration, and therefore no instructions are given the patients as to the precautions in caring for the wound.

How frequently do we find upwards to 100 or more vaccinations being performed in one day by a physician at the beginning of an epidemic of smallpox, the patient, frequently a child, unattended by an adult, turned away without any definite instructions as to the future care of the lesion which is sure to follow in susceptible cases; here is where the great danger of contamination lies. It would seem to me valuable to have printed instructions, "how to properly care for the vaccination;" a copy handed to each patient when vaccinated. I believe it would prove very profitable to the coming physician if this subject was part of our college curriculum, that each student could have demonstrated to him the proper technic. That the subject is also of sufficient importance to be incorporated in our medical text-books.

Cannot each one of us remember our first attempt, how uncertain we were, and for the first time realized that vaccination was of very much more importance than we had previously attached to it.

I regret that too frequently when untoward or no results are reported from vaccination, that the tendency is to blame the virus employed. Is this just? We should first always make sure that the fault was not in the technic or in the care of the wound, and then investigate the laboratories and technic used by the propagators or virus in question, then if there is any fault, it should be specifically criticized.

We should remember also that up to the present time the bacteriologists have not been able to isolate the specific germ of vaccinia. From our best authorities we believe it to be a living organism, we know, however, that it is very delicate and its action is destroyed by moderate heat and mild antiseptics, and here is a point worthy of consideration. When the virus fails, have we possibly destroyed the activity of the virus by not properly removing our cleansing agents, in our endeavor to obtain perfect asepsis of inoculated area; has the virus been kept in a cool place since leaving the laboratory; is it not possible for the potency to have been destroyed by over-heating, etc.?

I believe it is the duty of every physician when the opportunity presents itself, to personally visit these vaccine laboratories, especially the one where the virus he is using is prepared. For the benefit of those who have never had this opportunity, I will briefly describe the laboratories where the glycerinized lymph was prepared which I have used in 237 cases reported and in other cases with such entire satisfaction. They are located at Glenolden Farms, Pa., on a high elevation, where pure air, water and plenty of space are easily obtained, and are in easy access to railroad, etc.

First, three stables are provided, the first of which is used as a receiving stable which is equipped with an especially constructed bath-tub into which each animal is put and washed with an alkaline soap solution. The area to be inoculated is carefully clipped. The temperature of each calf is taken every hour beginning at 6 a. m. and continuing until 6 p. m. At 8 p. m. tuberculin is injected. On the following day the temperature is again taken at corresponding periods. Should there be any considerable rise in the temperature noted, the animal is rejected as being probably tuberculous.

The successfully tested animal when ready for inoculation is taken to separate apartment and carefully shaved over and around the area to be scarified and re-examined for any skin eruptions, etc., should any be found the animal is rejected.

When ready for inoculation the animal is taken into an operating-room which is as perfect in every detail as those in our most modern hospitals. This room is always kept scrupulously clean. The furniture is enameled metal and glass, the floors and walls are of a fine close grain finish which is thoroughly flushed with boiling water after each inoculation and remains closed ready for the next operation.

The animal is so strapped to an especially constructed operating table that it is practically immovable. The previously shaved area to be inoculated is washed with warm water and soap followed by mercuric chloride solution 1-1000, all traces of which are removed by sterilized water. The calf is now ready for inoculation. The area is surrounded with sterilized towels, the operator putting on a sterilized gown, with an aseptic scalpel makes a linear incision, never deep enough to draw blood, about one-fourth inch apart in the long axis of the animal's body. The glycerinized lymph is now poured on the area and lightly rubbed in for about twenty minutes. The animal is then removed to the incubating stable. This stable is also kept scrupulously clean with plenty of light passing through frosted glass windows; floors are of smooth cement with a perfect drainage system. Walls of enamel finish, stalls of slate, the floors of which are covered with a rack of hard wood, this allows free circulation of air and permits of free passage of drainage, which is immediately removed as soon as voided; the stable is flushed with hot water and equipped with every conceivable arrangement to insure perfect cleanliness and avoid any dust circulating in the atmosphere.

The calves are taken to a separate apartment and fed exclusively on Pasteurized milk. I wish to emphasis the fact that no hay, straw or other material that favor bacteria, ever enter these stables.

When collecting the lymph the animal is again removed to the operating table, the scarified area is scrubbed with sterilized water until the crust is soft, when it is removed with a sterilized blunt instrument and discarded, leaving behind the rows of pearly white vesicles, consisting of skin tissue, vesicular contents, blood serum, white blood cells, etc. The scab is always thrown away and is never under any circumstances used, the technique so far as asepsis, etc., is identical as when preparing the anim for inoculation. The operator with an aseptic curette or Volkman's spoon scoops out the lines of vesicles which is known as pulp. This is deposited in a sterilized receptacle of known weight. Thus we obtain the net weight of the pulp. The required amount of the sterilized glycerine from a burret is gradually combined with the pulp by repeatedly passing between aseptic glass rollers of the grinding machine which triturates the glycerine and pulp together, making a thoroughly homogenous mass of glycerinized vaccine which is received into an aseptic glass container and afterwards placed in large aseptic glass stock-tubes. These are immediately closed and put into an ice cabinet where the temperature is kept

about 12 deg. C., until it is found by bacteriological tests to be practically free from pathogenic germs. It is then removed to the filling room, then by a vacuum apparatus manipulated by especially expert operators the lymph is drawn into capillary tubes. These are immediately hermetically sealed.

Every step of the work is carried on with rigid precautions as to cleanliness. The animals are especially selected, heifers only being used. They are from six to twelve weeks old, as it has been found that older animals are not so reliable. They are subjected to rigid and repeated examinations and after the virus has been removed they are killed, and if any disease should be discovered by the competent veterinarian the virus is rejected.

All glass-ware, tubes, etc., used in the work are subjected to 400 degrees of heat for one hour, in dry air sterilized. Towels and jackets of the operator are subjected for one-half hour under fifteen pounds pressure in an especially constructed steam chest. The operators are especially instructed as to care of hands, dress, etc., and every detail of the work is constantly scrutinized by those thoroughly competent by long experience and careful training for such inspection.

In closing, I beg to state that I have demonstrated to my own satisfaction that vaccination offers a positive protection against smallpox, and that the vast majority of untoward results are the fault of the technic and after-care of the vaccination and *not of the vaccine virus*.

THE grape fruit is said to have in small degree the qualities of quinine, and will actually allay inflammation and break up malarial disorders if taken in time. It acts directly upon the liver and possesses mild purgative properties.

ECHINACEA FOR HEMORRHOIDS.—Dr. E. V. Hall, in the *Lancet Clinic*, says that the fluid extract of echinacea angustifolia is an excellent remedy for hemorrhoids, when combined with hamamelis, in equal parts. Two drams of this combination are to be injected into the rectum after each bowel movement.

ULCERS AND BURNS.—Thiol is a basic di-thio salicylate of bismuth; a hydrocarbon obtained in a similar manner to ichthyol. It may be applied to ulcers and burns in the form of an ointment as follows:

℞ Thiol.....
Vaselini albi.....aa ʒi
Lanolini..... ʒi

M. Ft. unguentum. Sig.: Apply locally once daily. And as a dusting powder it may be combined as follows:

℞ Thiol..... ʒii
Zinci oxidi..... ʒiii
Amyli..... ʒi
Pulv. talci..... ʒii

M. Sig.: Apply locally as a dusting powder once a day and cover with absorbent cotton.

# Society Proceedings.

## MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

***Proceedings of the Twenty-Eighth Annual Meeting, Held at Kansas City, Mo., October 15, 16 and 17, 1902.***

STENOGRAPHICALLY REPORTED FOR THE MEDICAL FORTNIGHTLY.

[CONTINUED FROM PAGE 728.]

The Association divided its scientific work into two sections, medical and surgical.

### MEDICAL SECTION.

#### SMALLPOX.

Dr. John M. Batten, of Downington, Pa., read a paper on this subject, which was published in full in our last issue.

#### AN ATTEMPT TO OBTAIN UNIFORMLY ACTIVE, STERILE, AND NON-IRRITATING PREPARATIONS OF DIGITALIS FOR SUBCUTANEOUS AND INTERNAL ADMINISTRATION.

Dr. E. M. Houghton, of Detroit, Mich., referred to the unsatisfactory condition of our knowledge of the chemistry of digitalis, and stated that a sterile, non-irritating, and uniformly active preparation was needed. He detailed his efforts to obtain such a preparation containing the largest possible amount of active constitutents and the smallest amount of inert constituents of the drug, based on pharmacological experiments on the lower animals. He gave the clinical results and conclusions arrived at.

Dr. J. J. Gaines, of Excelsior Springs, Mo., followed with a paper on

#### SOME DEVELOPMENTS IN THE THERAPY OF IODOFORM.

He regarded iodoform as the best remedy for tuberculosis at the command of the physician. He spoke of it as an ideal iodide, storing all quantities of iodine, which could be easily liberated. He mentioned its use in pulmonary and gastro-intestinal diseases, and reported a number of cases in which he had used it with gratifying results.

#### NORMAL SLEEP VERSUS DRUG UNCONSCIOUSNESS.

This paper was read by J. B. Learned, of Northampton, Mass. Natural sleep was indispensable to long life and business success. Drug unconsciousness, labeled sleep, was the reverse. The indoor brain worker failed to lay the foundation of normal sleep by day, and suffered by night the result thereof. Brain and muscle employed in the open alone during the day would secure the normal conditions of sleep at night. Automatic brain activity at the sleeping hour was the immediate cause of wakefulness. The ready remedy was muscular exertion under the direction of the will, either mild, without change of parts, or the reverse. Control of the respiratory and circulatory functions met the desired end by withdrawing

power from the brain centers. All automatic brain work was suspended when concentrated attention was paid to alternate contraction and relaxation of certain groups of muscles. Automatic brain work was pathological. The author detailed a method of inducing sleep.

### THE TREATMENT OF EXOPHTHALMIC GOITRE BY ELECTRICITY.

Dr. H. M. Beaver, of Spring Hill, Kansas, in this paper defined exophthalmic goitre, and then discussed the clinical history, causes, etc. He said predisposition might act as a etiologic factor. The exciting cause might be a previous illness, injury, or over-exertion The exciting cause involved a determination of blood to the brain and medula oblongata. This determination of blood acted as an irritant by pressing upon the nerve centers, causing the incoordinate nerve action found in this disease.

The symptoms referable to the heart, lungs, stomach, thyroid gland and eyes were nervous phenomena.

The cardinal principle of treatment was to decrease the flow of blood to the head. When this was accomplished, all the minor symptoms would subside.

The author reported three cases of the disease,and described the mode of application of electricity, also the battery used. He regarded exophthalmic goitre as a vaso-moter paralysis; hence it was amenable to electrical treatment.

### TYPHOID FEVER: ITS ANTISEPTIC TREATMENT.

Dr. James Billingslea, of Baltimore, Md., contributed a paper with this title, in which he reported 150 cases. He summarized the chief points in the disease. He said various antiseptics had been tried and vaunted. These were mentioned. Eliminative measures had been freely tried, and one of the most potent agents that the profession had today, Brand's method of cold bathing, owed its merits largely to its eliminative value. But even the undoubted value of Brand's method did not militate against the importance of an antiseptic plan, if an effective one was forthcoming. Such an antiseptic seemed to exist in the case of acetozone,which came to the profession with the endorsement of Professors Freer and Novy, of Ann Arbor, Michigan. Wasdin had recorded 24 cases treated with this drug, with a speedy subsidence of fever, a small proportion of complications, and a material lessening of the duration of the disease. While the author had always been an advocate of conservative treatment, and had made it his aim to make haste slowly, seeing, as he did, a large number of typhoid cases, he was compelled to give this antiseptic a fair trial. During the past year he had treated in private and hospital practice 150 cases of typhoid fever with acetone, and the results had surpassed his expectations, not a single death having occurred.

The special treatment consisted in dissolving 15 to 20 grains of acetozone powder—equal to 7½ or 10 grains of the benzoyl-acetyl-peroxide—in a quart of water and giving the patient this amount to drink in the twenty-four hours, both in water and in milk, diluting the milk one part of acetozone solution to three parts of milk. The action of the drug would be

materially aided by administering a mild saline laxative, say sodium phosphate or magnesium sulphate, every other day.

Dr. Wm. F. Barclay, of Pittsburg, Pa., contended that sewerage had much to do with the causation of typhoid fever. He had been able in a large number of cases to trace the cause to bad sewerage. As to treatment, he had given for years a solution of acetate of ammonia, administering one or two drams, every three hours, during the day, with quinine at night, if indicated. He excluded milk as a diet, believing that it was dangerous. In cases accompanied by hemorrhage he gave turpentine externally in preference to other remedies.

Dr. John M. Batten, of Downingtown, Pa., believed that typhoid fever originated from sewerage and polluted water. In the treatment large doses of quinine were dangerous. The antiseptic plan of treatment prevented auto-intoxication.

Dr. John J. Taylor, of Streator, Ill., had used acetozone for the last three years in typhoid fever, and considered it a valuable antiseptic.

Dr. H. J. Stewart, of Chicago, Ill., had treated 16 cases of typhoid during the recent epidemic in Chicago, and of this number there were two patients who could not take acetozone, but whether it was due to an idiosyncrasy on part of the patient he did not know.

Dr. Wm. Britt Burns, of Memphis, Tenn., cited the case of a girl, aged 10, which illustrated the air-borne mode of infection.

Dr. Everett J. Brown, of Decatur, Ill., said that acetozone was an antiseptic upon which practitioners could safely rely. He had used it in one case, and had seen several other cases in consultation in which it had been used, with excellent or gratifying results.

Dr. Wm. A. Campbell, of Colorado Springs, contended that when patients became very hungry for food, the physician should try and find out what articles of food would best agree with them. This was the plan he pursued in treating typhoid cases. He did not regard milk as a dangerous food in typhoid fever cases.

## SYMPOSIUM ON TUBERCULOSIS.

Dr. W. A. Campbell of Colorado Springs, read a paper entitled

### WHAT CLASS OF PULMONARY CASES DO WELL IN COLORADO?

After speaking of the prevalence of tuberculosis and the frequency of unrecognized and cured cases as shown by autopsies, Dr. Campbell gave an analysis of 250 cases coming under his observation, in which his examinations were made soon after their arrival in Colorado. He found in this series of cases that the average age was $29\frac{4}{5}$ yoars. Sex or social station made no difference in physical condition or result. Twenty-nine states and five foreign countries furnished the cases. Those with tubercular family history did not do as well as the non-tubercular. The percentage of benefited decreased as the duration of the disease increased. The right lung was involved alone oftener than the left. The percentage of benefited was slightly in favor of the right lung. Where both lungs were involved, the

mortality was fifty per cent. In the first stage cases 92 per cent were benefited; in the second stage, 54 per cent; in the third stage, 13 per cent. Hemorrhage occurring in the first stage of the disease was no contraindication to residence in high altitude. The diminished arterial tension and dilatation of external capillaries due to lessened atmospheric pressure made it safe for hemorrhagic cases to seek a higher altitude. He would not send cases of acute miliary tuberculosis or phthisis florida to high altitudes. Neither would he send those extremely nervous, with an irregular or rapid heart and high temperature. Cases well advanced, with rapidly breaking-down lung, should not come. Cardiac murmurs were no contraindication if compensation had taken place. Those having Bright's disease should not come. Advanced laryngeal or intestinal cases did not do well. He would have patients come with sufficient money to support themselves on good food until acclimated and improvement was well advanced. In conclusion, he cited the high percentage of benefited in the first stage, and made an appeal for the early detection and early protection of the tubercular subject.

CLIMATIC AND ELECTRIC PECULIARITIES OF COLORADO FAVORING RECOVERY IN PULMONARY AND OTHER DISEASES.

Dr. J. E. MacNeill, of Denver, Col., followed with a paper on this subject, which was published in the last issue of the FORTNIGHTLY.

DIGESTIVE DISORDERS OF CONSUMPTION WITH NOTES ON MIXED INFECTIONS.

Dr. Paul Paquin, of Asheville, N. C., followed with a paper on this subject, which is published in full in this issue.

[TO BE CONTINUED.]

SEQUELS OF GONORRHEA.—Konig divides the sequels of gonorrhea into three classes: local, such as stricture; ascending, such as ovaritis, orchitis, cystitis, pyonephrosis, etc., and the blood infections, due to absorption of the gonotoxin, such as pyaemia affections of the heart, pleura, and joints. All recent writers upon this subject urge the need of more general information by the laity upon these subjects, and that layman should be warned against the ravages, both near and remote, of veneral diseases.

THE MURPHY BUTTON.—A Chicago newspaper man was asked to speak at a recent banquet over which Dr. John B. Murphy presided as toastmaster. "It was suggested to me," he said, "that it might be a delicate compliment to the toastmaster for me to wear a Murphy button on this occasion. I went up and down State street to all the department stores searching for one. I found college buttons, fraternal buttons, G. A. R. buttons, but no Murphy buttons. Meeting a physician, I asked him what a Murphy button might be. He told me that the Murphy button was worn in the abdomen—on the inside. Then he rattled off a lot of stuff that was Greek to me. I caught the idea, however, and I have worn one in honor of the toastmaster. I take it that the Murphy button is the refined name for what we used to call 'the belly button.'"—*The Chicago Clinic.*